REMARKS

Independent claims 1, 2, 4, 6, 20, 21, and 22 are amended.

Dependent claims 3, 5, 7, 8, 12, and 14 are amended.

Dependent claims 10, 11, 13, 15, 16, 17, 18, and 19 are original.

Dependent claim 9 is previously presented.

Claims 7 and 18 depend from claim 1.

Claim 3 depends from claim 2.

Claim 5 depends from claim 4.

Claim 8 depends from claim 7. Claim 9 depends from claim 8.

Claims 10-13 depend from claim 9.

Claim 14 depends from claim 8.

Claims 15 and 16 depend from claim 7.

Claim 17 depends from claim 8.

Claim 18 depends from claim 1.

Claim 19 depends from claim 8.

No claims are canceled.

Claims 1-22 are pending in this case.

Section 102

Claims 1-22 stand rejected under 35 U.S.C. 102(b) as being anticipated by anticipated by applicant's admission that FIGS. 1, 2, 3, 4, 5, 6, 7, 7A, 8, 9, and 10 are prior art, in which said FIGS. appear in U.S. Patent 5, 891,131 (the '131 patent). Applicant respectfully traverses this rejection.

"A claim is anticipated only if each and every element

as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. V. Union Oil Co. of California*, 2 USPQ2d 1051, 1053, (Fed. Cir. 1987). Also, "All words in a claim must be considered in judging patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 165 USPQ 494. 496 (CCPA 1970).

Although applicant has admitted that FIGS. 1, 2, 3, 4, 5, 6, 7, 7A, 8, 9, and 10 are prior art, the provision of the invention of mathematically modeling a human eye using calculated strain values for a human and eye and using a mathematical model to simulate strain deformation of the eye by a hypothetical insertion of an insert in the cornea, and thus a region of increased stiffness in the cornea, particularly with respect to the discussion of the invention in conjunction with FIGS. 7B and 7C beginning at [0086] of the present specification, is neither shown in FIGS. 1, 2, 3, 4, 5, 6, 7, 7A, 8, 9, and 10, discussed in conjunction with FIGS. 1, 2, 3, 4, ,5 6, 7, 7A, 8, 9, and 10, or shown in the '131 patent. Applicant's prior art admission relates only to FIGS. 1, 2, 3, 4, 5, 6, 7, 7A, 8, 9, and 10, and does not include FIGS. 7B and 7C, the discussion of the invention in conjunction with FIGS. 7B

and 7C, and the provision of mathematically modeling a human eye using calculated strain values for a human and eye and using a mathematical model to simulate strain deformation of the eye by a hypothetical insertion of an insert in the cornea. Because nowhere in the present specification does applicant admit that mathematically modeling a human eye using calculated strain values for a human and eye and using a mathematical model to simulate strain deformation of the eye by a hypothetical insertion of an insert in the cornea is prior art, and because the '131 patent does not in any way teach mathematically modeling a human eye using calculated strain values for a human and eye and using a mathematical model to simulate strain deformation of the eye by a hypothetical insertion of an insert in the cornea, the section 102(b) rejections of the present claims is believed to be moot and should be withdrawn.

Section 103

Claims 1-22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Rajan et al., U.S. Patent No. 5,891,131 (the '131 patent). Applicants respectfully

traverses this rejection.

In determining the differences between the prior art and the claims, the question under 35 U.S.C. 103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v Aeroquip Corp.*, 713 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983); *Schenck v Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983). Further, a prior art reference must be considered in its entirety, i.e. as a whole, including portions that would lead away from the claimed invention. *W. L. Gore & Associates, Inc. v Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). "All words in a claim must be considered in judging patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 165 USPQ 494. 496 (CCPA 1970).

All of the independent claims now pending in this case specify a computer-implemented method of simulating the corneal strain relationship produced by patient specific corneal deformation in response to an insertion of an insert in the cornea, including representing an insertion of an insert in the cornea, and thus a region of increased

stiffness in the cornea, in the mathematical analysis model and using the mathematical analysis model to compute new strain relationships resulting from the insertion of the insert in the cornea. Claim 1 of the '131 only specifies an incision. At col. 1, lines 15-18, of the '131 patent, it is carefully disclosed that "the term 'incision,' which usually refers to a cut made by a scalpel, and the term 'excision,' which usually refers to a cut made by a laser beam, are considered to be interchangeable and to have the same meaning." Clearly, the term "incision" means a cut, which is entirely different from the insertion of an insert in the cornea.

A cut that is formed in a cornea, whether by a scalpel or a laser beam, is not the same thing as an insertion of an insert in the cornea. An incision may be required in order to insert an insert in the cornea, and merely having an incision in a cornea is, therefore, clearly not the same thing as an insert in the cornea that is represented in the mathematical analysis. The invention is not concerned with representing an incision in the cornea in the mathematical analysis model. An incision region in a cornea produces a region of reduced stiffness in the cornea. An insertion of an insert in the cornea produces a region of increased

stiffness in the cornea. The invention is concerned with representing an insertion of an insert in the cornea, and thus a region of increased stiffness in the cornea, in the mathematical model, which clearly produces the opposite type of strain on the cornea than does merely an incision in the cornea. Clearly, an incision in the cornea introduced in the mathematical model, which is a region of reduced stiffness in the cornea, is not the same as an insertion of an insert in the cornea introduced in the mathematical model, which is a region of increased stiffness in the cornea. Insertion of an insert in the cornea is simply not the functional equivalent of any action that results in the thermal shrinkage of the cornea, because the insertion of an insert in the cornea producing a region of increased stiffness in the cornea is entirely different from an incision in the cornea producing a region of decreased stiffness in the cornea because a region of increased stiffness in the cornea produces an entirely different mathematical model and an entirely different modeling of the eye not contemplated by the '131 patent. The '131 patent is only concerned with producing a region of decreased stiffness in the cornea and modeling that, and not with inserting an insert in the cornea producing a region of increased stiffness in the cornea and modeling

that. In this regard, the Examiner's proposed modification could render the method in the '131 patent inoperative because the modeling in the '131 patent is based on producing a region of decreased pressure in the cornea and Applicant's claimed invention is concerned with just the opposite, namely, modeling a region of increased pressure in the cornea by introducing into the mathematical model an insertion of an insert in the cornea. If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Accordingly, the '131 patent teaches entirely away from the claimed subject matter now pending in this case, and does not render the claims obvious, which renders moot the section 103 rejections of claims 1-22.

Conclusion

Applicants traverses each and every rejection set forth by the Examiner. Any particular rejection not specifically addressed is not to be deemed to be Applicant's agreement with, or Applicant's acquiescence to, Examiner's position or interpretation of the prior art. It is to be understood that Applicants' present response is for the purpose of overcoming the rejections of the subject matter set forth in the pending independent claims, in which the subject matter claimed therein is presently desirable to Applicant in the present application.

Clearly, the subject matter claimed in claims 1-22 is not shown in the '131 patent, and not rendered unpatentable in view of Applicant's admission that FIGS. 1, 2, 3, 4, 5, 6, 7, 7A, 8, 9, and 10 are prior art. Further, the claimed features of Applicants' inventive structure set forth in claims 1-22 are not inherent in the '131 patent since the method steps of Applicants' claimed subject matter and the method steps in the '131 patent are not similar and teach away from one another.

Since the '131 patent does not disclose the claimed invention, since "incision in the cornea" and "insertion of an insert in the cornea" are not the same things and are not functional equivalents, and since no suggested modification of the '131 patent can possibly achieve the limitations of the claimed invention, Applicant believes that claims 1-22 are now in condition for allowance. Accordingly, it is respectfully asserted that Applicant's claims 1-22 are clearly allowable and the case is now in condition for allowance.

The dependent claims now pending in this case add additional novel features and are, a-fortiori, patentable. Each and ever cited and non-applied subsidiary reference is submitted to be less relevant than the relied-upon prior art.

In view of the foregoing, Applicant submits that the invention disclosed and presently claimed in this application patentable and nonobvious over the prior art of record in this case. Therefore, allowance of the present application is in order and respectfully requested.

Examiner's thorough and thoughtful consideration of this application is sincerely appreciated.

Respectfully submitted,

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